Claims

Claim 1.

A recombinant DNA transfer vector comprising a polynucleotide sequence that encodes an insecticidal fragment of a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, and SEQ ID NO:8.

Claim 2.

The vector of claim 1 wherein said polynucleotide sequence encodes a toxin comprising an insecticidal fragment of SEQ ID NO:8.

Claim 3.

The vector of claim 1 wherein said polynucleotide sequence comprises a fragment of the nucleotide sequence of SEQ ID NO:7 that is sufficient to encode an insecticidal toxin.

Claim 4.

The vector of claim 2 wherein said vector is a Ti plasmid from *Agrobacterium tumefaciens.*

Claim 5.

The vector of claim 1 wherein said vector is transferred to and replicated in a prokaryotic or eukaryotic host.

Claim 6.

An isolated polynucleotide that encodes a *Bacillus thuringiensis* toxin comprising an insecticidal fragment of a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

Claim 7.

The isolated polynucleotide according to claim 6 wherein said polynucleotide comprises a fragment of a nucleotide sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5.

Claim 8.

A recombinant microbial or plant cell comprising an isolated polynucleotide sequence that encodes a toxin comprising an insecticidal fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

Claim 9.

The recombinant microbial or plant cell according to claim 6 wherein said polynucleotide comprises a fragment of the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, and SEQ ID NO:5.